

## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/CA2004/001454

## A. CLASSIFICATION OF SUBJECT MATTER

IPC7: B62D-21/15, B21J-5/12, B21D-9/05

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7: B62D-21/15, B21J-5/12, B21D-9/05

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base, and, where practicable, search terms used)

Delphion, Espacenet, Main keywords: frame, vehicle, crash, collision, weaken.

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6,406,088 B1 (TATE), 2002-06-18, whole document	1-10
X	US 6,099,071 (KASUGA et al), 2000-08-08, the whole document	1-3, 5, 7, 8
X	US 5,913,565 (WATANABE), 1999-06-22, figure 1, abstract	1, 6, 8
X	JP 06278646 A (NISSAN SHATAI CO LTD), 1994-10-04, representative drawing, abstract	1, 6, 8
X	US 6,293,587 B1 (LAPIC et al), 2001-09-25, figure 5, column 5, lines 10-14	1, 8
X	JP 2001241478 A (NKK CORP), 2001-09-07, representative drawing, abstract	1, 8
A	WO 02/04253 A1 (NORSK HYDRO ASA), 2002-01-17, the whole document	11-15

Further documents are listed in the continuation of Box C.

(x) Patent family members are listed in annex.

* Special categories of cited documents :	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E" earlier application or patent but published on or after the international filing date	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&" document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international-type search  
27 October 2004 (27-10-2004)Date of mailing of the international-type search report  
07 January 2005 (07-01-2005)Name and mailing address of the ISA/CA  
Commissioner of Patents  
Canadian Patent Office - PCT  
Ottawa/Gatineau KIA 0C9  
Facsimile No. 1-819-953-9358Authorized officer  
Jeremy Garnet (819) 956-8721

**INTERNATIONAL SEARCH REPORT**  
Information on patent family members

International application No.  
**PCT/CA2004/001454**

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US6406088	18-06-2002	AT247017T T	15-08-2003
		DE69910426D D1	18-09-2003
		DE69910426T T2	24-06-2004
		EP1133428 A1	19-09-2001
		GB9825970D D0	20-01-1999
		GB9907710D D0	26-05-1999
		WO0030916 A1	02-06-2000
		WO0031344 A1	02-06-2000
US6099071	08-08-2000	CN1095772B B	11-12-2002
		EP0900717 A2	10-03-1999
		EP1398247 A2	17-03-2004
		JP3333719B2 B2	15-10-2002
		JP3333720B2 B2	15-10-2002
US5913565	22-06-1999	NONE	
JP6278646	04-10-1994	JP2981363B2 B2	22-11-1999
US6293587	25-09-2001	BR0100956 A	30-10-2001
		US6422604 B2	23-07-2002
JP2001241478	07-09-2001	NONE	
WO0204253	17-01-2002	AU8027001 A	21-01-2002
		EP1299266 A1	09-04-2003
		NO20003555 A	11-01-2002